National Board of Examinations

Question Paper Name :	DNB Physiology Paper1
Subject Name :	DNB Physiology Paper1
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Actual Answer Key :	No

DNB Physiology Paper1

Group Number :	1
Group Id :	327187676
Group Maximum Duration :	0
Group Minimum Duration :	180
Show Attended Group? :	No
Edit Attended Group? :	No
Group Marks :	100
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

DNB Physiology Paper1

Section Id :	327187679
Section Number :	1
Section type :	Offline

Mandatory or Optional :	Mandatory
Number of Questions to be attempted :	10
Section Marks :	100
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	327187683
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 1 Question Id : 32718721063 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Please write your answers in the answer booklet within the allotted pages as follows:-

Question Number	Answer to be attempted within	Question Number	Answer to be attempted within
Q. 1	Page 1-5	Q. 6	Page 26-30
Q. 2	Page 6-10	Q. 7	Page 31-35
Q. 3	Page 11-15	Q. 8	Page 36-40
Q. 4	Page 16-20	Q. 9	Page 41-45
Q. 5	Page 21-25	Q. 10	Page 46-50

1. What is the difference between osmolality and tonicity? Explain the mechanisms by which cells regulate their volume when they are exposed to isotonic and non-isotonic extracellular fluid. [2+8]

Question Number : 2 Question Id : 32718721064 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

What are graded potentials? Describe the ionic fluxes that underlie graded potentials. Explain the physioclinical significance of these potentials. [2+4+4]

Question Number : 3 Question Id : 32718721065 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

What are neuromodulators? Describe the role of nitric oxide and carbon monoxide in modulating synaptic transmission. [2+(4+4)]

Question Number : 4 Question Id : 32718721066 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Describe the various biological rhythms in the body. [10]

Question Number : 5 Question Id : 32718721067 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

a) Define the processes of exocytosis and endocytosis. [4]
b) Describe the contribution of each to normal cell function. [6]

Question Number : 6 Question Id : 32718721068 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Classify Adenosine Triphosphate-dependent transporters. Explain the role of different classes of these transporters in causing movement of molecules and ions across the membrane. [2+8]

Question Number : 7 Question Id : 32718721069 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

a) Explain the role of protiens that contribute to membrane permability. [5]

b) Describe the cellular cytoskeleton and their functions. [5]

Question Number : 8 Question Id : 32718721070 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

a) Explain why water is considered an essential nutrient whereas glucose is not? [4]

b) Describe the role of Eicosanoids in health and disease. [6]

Question Number : 9 Question Id : 32718721071 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

a) Consent in clinical research. [5]

b) Gaussian distribution. [5]

Question Number : 10 Question Id : 32718721072 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

What is translational research? With the help of a suitable example, explain the concept of translational research. How is it different from basic research? [2+4+4]